Plaster

The invention relates to a plaster according to the preamble to Claim 1 and also to a set consisting of at least one such plaster and a cosmetic cream.

Plasters available on the market in conventional form, such as are considered in the preamble to Claim 1, have a base layer, the composition of which is coarsely adapted as regards colour to an average skin colour. Consequently there is always a certain contrast between the colour of the plaster and the skin of the user. Whilst, as a rule, this is put up with in many places, e.g. on the hand, plasters at other places on the body, particularly on the face, are unsightly. For this reason an attempt is often made to cover over an inflamed place on the skin directly with make-up, though this is undesirable for medical reasons.

By virtue of the present invention a plaster is therefore to be created that can be exactly adapted in its colour to the surrounding skin colour or to the surrounding make-up or that is already so adapted.

In accordance with the invention this object is achieved by virtue of a plaster according to Claim 1.

The plaster according to Claim 1 has a skin-like appearance by reason of its prepared external surface. Make-up can be applied onto the external surface, so that the plaster then no longer stands out from its surroundings in terms of colour.

Advantageous further developments of the invention are specified in the dependent claims.

A surface that accepts a cosmetic preparation can be obtained in simple manner in accordance with Claim 2. In practice, the roughening can be effected by electrical discharge, etching or by mechanical means.

With the further development of the invention according to Claim 3 a good adhesion of lipophilic or hydrophilic cosmetic preparations is achieved.

The further development of the invention according to Claim 4 is advantageous with regard to an appearance that also comes close to the surface structure of the skin.

If the base layer of the plaster is constructed in accordance with Claim 5, the base layer can be chosen to be particularly thin: a single-ply layer of microcapsules which have a diameter ranging from a few μ to 100 μ, preferably about 10 to 20 μ, is sufficient for an effect that is adequate over and beyond one day. If the base layer is provided in a window of the adhesive layer, it can be guaranteed that the surface of the plaster coming into contact with the skin is continuous in flush manner and that the base layer does not show on the outside of the plaster.

Plasters are often used for covering small wounds. The base layer in commercial adhesive plasters of such a type is conventionally made out of cotton. If there is a base layer consisting of microencapsulated active substances, use can be made of microencapsulated hygroscopic mineral substances such as, for example, kieselguhr, aluminium oxide etc, for the purpose of drying wounds, as specified in Claim 6. Alternatively or in addition, pharmaceutical active substances, or even skin-care products such as

soothing oil, can be provided in microencapsulated form in the base layer. This is also specified in Claim 6.

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The further development of the invention according to Claim 7 permits a good colour adaptation to the surroundings, also when no make-up is used. The plasters are made available in a large number of different colours, it being possible to bring this about in simple manner when use is made of printing-ink layers. With the conventional plasters incorporating dyed base layers, on the other hand, the number of available colours is limited, and making plasters available in various closely graduated colour hues represents a considerable effort.

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The further development of the invention according to Claim 8 is advantageous with regard to protection of the printing-ink layer against mechanical damage.

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A plaster according to Claim 9 is distinguished in that it adapts itself particularly well to the surface of curved skin segments. Base layers made out of rubber also have particular advantages for medical reasons, e.g. in the dressing of blisters on the foot.

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If use is made of layer thicknesses such as are specified in Claim 10, on the one hand the plaster is not visually obtrusive; on the other hand, it has sufficient strength. Such thin plasters can also be adapted well to the geometry of the surface of the skin.

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With the further development of the invention according to Claim 11 it is ensured that the plaster does not come loose or peel off, even under unfavourable conditions (e.g. a lengthy stay in warm water or in the sun). The plaster remains permanently connected to the surface of the skin

and flakes off together with the uppermost dermal layer when the skin is renewed.

A plaster such as is specified in Claim 12 is particularly well suited for temporarily covering a surface segment of the skin or for covering a plaster with colour adapted to the colour of the skin, e.g. when bathing.

Also in cases when the colour of the plaster, which is predetermined by a printing-ink layer, is exactly adapted to a make-up colour, by plaster and make-up being made available as a set (Claim 13), an outstanding colour adaptation obtains between plaster and surroundings.

The further development of the invention according to Claim 14 permits a user simply to take the size of plaster that is required for the particular application from a set. Trimming of a plaster is not necessary.

The invention will be elucidated in greater detail below on the basis of embodiment examples with reference to the drawing. Shown in this drawing are:

Figure 1: a section through a segment of a medical plaster;

Figure 2: a partial top view of a medical plaster according to Figure 1; and

Figure 3: a section through a further plaster which serves only for covering scars or the like.

The plaster shown in Figure 1 has a base layer 10, the thickness of which is small (in practice, 20 to 100 μm), and bears a still thinner adhesive layer 12 on its underside.

The upper side of the base layer 10 (when the plaster is affixed, the outside) is roughened, as indicated at 14. The roughened external surface 14 of the plaster bears an adhesion-promoting coating 16. This imparts hydrophilic properties (for use with hydrophilic make-up) or lipophilic properties (for use with lipophilic make-up) to the outside of the plaster. The adhesion-promoting coating 16 is thinly applied onto the base layer 10 by spraying.

A window 18 which is filled out with an active material 20 is provided in the adhesive layer 12. In the embodiment example being considered, it is a question of a single-ply layer of microcapsules 22 in which an active substance is enclosed.

The microcapsules 22 have a wall 24 which consists of a material that is not stable with respect to body heat and/or moisture, e.g. gelatine. The active substance 26 is disposed in the interior of the wall 24.

If the plaster is intended to perform the usual dressing function, the active substance 26 consists simply of a liquid-absorbing material, e.g. kieselguhr, aluminium oxide or the like.

In addition, amongst the microcapsules 22 there may be those which contain medical active substances, e.g. oxygen-releasing compounds or other wound-disinfecting agents. Further microcapsules which can be used in addition or even on their own are those which contain pharmaceutical active substances. In this connection it may be a question primarily of pharmaceutical active substances for the skin, but these substances may also be other pharmaceutical active substances that are supplied to the body percutaneously.

As is evident in particular from Figure 2, the base layer 10 is provided with an imprint 28 which has undergone an embossing 28 corresponding to the surface structure of skin.

The embodiment example according to Figure 3 shows a plaster that bears no active material (working layer) but serves only for covering permanent cutaneous irregularities, e.g. scars.

In the case of this plaster a printing-ink layer 30 is applied onto the underside of the base layer 10, e.g. using screen printing. By virtue of appropriate colour setting of the printing ink or by virtue of appropriate multicolour printing, the colour of the printing-ink layer can be changed inexpensively in fine stages, and in this way plasters for an extremely wide range of skin types and an extremely wide range of make-up can be made available.

In the case of the plaster according to Figure 3 the adhesive layer 12 is applied onto the underside of the printing-ink layer 30. Hence the printing-ink layer 30 is protected from both sides.

By way of material for the base layer 10, the conventional plastic films for skin plasters enter into consideration. But whereas the commercially available plasters also exhibit dyed base layers, the colour adaptation of a plaster according to the invention is effected, as described above, by the base layer being formed on the upper side in such a way that it accepts a cosmetic preparation, or by providing it on the surface with a printing-ink layer that is adapted to the colour of a cosmetic preparation. A plaster that is only prepared on the surface with regard to good acceptance of a cosmetic

product can often also be employed directly when the base layer 10 and the adhesive layer 12 are themselves made out of transparent material, since the skin colour shows through.

If a rubber material, more precisely a rubber film having a thickness from 20 to 100 μm, preferably 30 to 60 μm, is chosen by way of material for the base layer 10, then the base layer adapts itself particularly well to curved segments of the skin in wrinkle-free manner, since the material can be easily stretched locally.

Plasters such as have been described above can also be used as "overplasters", that is, they can also be put onto a plaster that has been adapted in colour as described, in order to protect this plaster against moisture, e.g. when bathing.

By way of material for the adhesive layer, the standard self-adhesive materials for plasters enter into consideration, which are constantly in a tacky state, so that the plaster can be easily pulled off.

Alternatively, use may also be made of adhesives that cure after attachment of the plaster to the skin. In this way a durable, secure fastening of the plaster on the skin is provided, and the adhesive residues, which in practice are often unpleasant and which remain on the skin, particularly after a plaster has been worn for a lengthy period, are eliminated. The plaster detaches itself automatically after some time when the uppermost dermal layer is cast off in the course of regeneration of the skin.

In practice, the plasters according to the invention are also made available in sets that contain punched-out individual plasters of varying geometry and size.